features of your new air conditioner

- **Cool Summer Offer**

  On those hot sweltering summer days and long restless nights, there is no better escape from the heat than the cool comforts of home. Your new air conditioner brings an end to exhausting hot summer days and lets you rest. This summer, beat the heat with your own air conditioner.

- **Cost Efficient System**

  Your new air conditioner not only provides maximum cooling power in the summer, but can also be an efficient heating method in the winter with the advanced “Heat pump” system. This technology is up to 300% more efficient than electrical heating, so you can further reduce its running cost. Now, meet year-round needs with one air conditioner.

- **Flexible installation**

  Duct type air conditioner is designed to be slimmer and offers different solutions for any shape room allowing for specific air flow requirements. Also, the air intake can be set up on either the bottom or rear of the unit, so there is more flexibility in installation.

SAMSUNG

For easy future reference write the model and serial number down. You will find your model number on the right side of the air conditioner.

Model #_____
Serial #_____

safety information

To prevent electric shock, disconnect the power before servicing, cleaning, and installing the air conditioner.

SAFETY INFORMATION

Before using your new air conditioner, please read this manual thoroughly to ensure that you know how to safely and efficiently operate the extensive features and functions of your new appliance.

Because the following operating instructions cover various models, the characteristics of your air conditioner may differ slightly from those described in this manual. If you have any questions, call your nearest contact center or find help and information online at www.samsung.com.

Important safety symbols and precautions:

WARNING	Hazards or unsafe practices that may result in **severe personal injury or death.**
CAUTION	Hazards or unsafe practices that may result in **minor personal injury or property damage.**
CAUTION	To reduce the risk of fire, explosion, electric shock, or personal injury when using your air conditioner, follow these basic safety precautions:

	Do NOT attempt.
	Do NOT disassemble.
	Do NOT touch.
	Follow directions carefully.
	Unplug the power plug from the wall socket.
	Make sure the machine is grounded to prevent electric shock.
	Call the contact center for help.
	Note.

These warning signs are here to prevent injury to you and others.
Please follow them carefully.
After reading this section, keep it in a safe place for future reference.

WARNING SEVERE WARNING SIGNS

Do not place the air conditioner near hazardous substances or equipment that releases free flames to avoid fire, explosions or injuries.

- Potential risk of fire hazard or explosion.

Do not install the outdoor unit at an unstable place or elevated surface where there is potential risk of falling.

- If the outdoor unit falls, it may cause personal injury or loss of property.

Failure or damage may occur if any changes or modification that is not stated in the installation manual was performed. In this case, user will be responsible for the repair expenses.

Install the air conditioner away from direct exposure to sunlight, heating apparatus, and humid places.

- Hang curtains on windows to boost cooling efficiency and to avoid the risk of electric shock.

Do not cut the power plug and connect to a different power cable.

Do not yank the power cable and touch the power plug with hands.

- Potential risk of fire or electric shock.

Never use a damaged or dusted power plug, power cable, or loosened power receptacle.

- Potential risk of fire or electric shock.

Install an exclusive circuit breaker and short-circuit breaker for the air conditioner.

- Potential risk of electric shock or fire.

Do not insert anything such as fingers or branches into the air conditioner vents while the air conditioner is running.

- Keep the children away from the air conditioner to prevent them from putting their finger on the air conditioner. Potential risk of personal injury.

Ensure no water gets into the air conditioner.

- Potential risk or electric shock.
- If the water gets into the air conditioner, stop and unplug the power source immediately.

Turn off the air conditioner using the provided remote control or control accessory (if provided). Do not unplug to turn off the unit (unless there is an immediate danger).

Do not run the air conditioner for an extended period of time in a room with the door closed or with babies, elderly or disabled people.

- Open the door or windows to ventilate your room at least once an hour to prevent oxygen shortage.

The air conditioner is composed of moving parts. Keep children away from the unit to avoid physical injury.

Make sure that children take precautions against access to the air conditioner and they do not play with the unit.

Do not clean the interior of air conditioner on your own.

- You may damage the parts which can cause electric shock or fire.
- Consult contact center for cleaning the interior of the air conditioner.

Do not connect the air conditioner with heating apparatus or attempt to disassemble, remodel or repair it yourself.

- Potential risk of malfunction, electric shock or fire. If repairs are needed, consult the contact center.

Consult the place of purchase or contact center to install, reinstall or disassemble the air conditioner.

- Improper installation carries a risk of unit malfunction, water leakage, electric shock or fire.
- If installing in specialty areas, such as a factory complex or saline coastal area, consult the place of purchase or contact center for specific installation details.
- The units must be installed according to distances declared, in order to permit accessibility from each side, either to guarantee correct operation of maintenance or repairing products. The unit's parts must be reachable and removable completely under safety condition (for people or things).

Consult a dealer regarding the appropriate measures to prevent the allowable concentration from being exceeded.

- If the refrigerant leaks, and cause the concentration limit to be exceeded, hazards due to lack of oxygen in the room may result.

If the indoor unit gets wet, turn the power off immediately and call your nearest contact center.

- Potential risk of fire or electric shock.

Always make sure that the power supply is compliant with current safety standards. Always install the air conditioner in compliance with current local safety standards.

Verify that the voltage and frequency of the power supply comply with the specifications and that the installed power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines.

Use a rated circuit breaker only.

- Never use steel wires or copper wires as a circuit breaker. It may cause fire or unit malfunctions.

Do not put undue stress or place heavy object on the power cable.

Do not bend the power cable excessively.

- Potential risk of fire or electric shock.

To protect the product from water and possible shock, you should keep the power cable and the connection cord of the indoor and outdoor units in the protection tube.

When opening or closing the front panel, use a stable stool and watch your steps carefully.

Disconnect the air conditioner from power supply before it is repaired or disassembled.

Clean the air conditioner after the inner fan stops operating.

- Potential risk of injury or electric shock.

SEVERE WARNING SIGNS (CONT'D)

Use a receptacle that has a ground terminal. The receptacle must be used exclusively for the air conditioner.

- Improper electrical grounding may cause electric shock or fire.

Be sure to ground the unit. Do not connect the ground wire to gas or water pipes, lighting rods, or telephone grounding lines.

- If the unit is not properly grounded, electric shock may result.

If you smell burning plastic, hear strange sounds, or see smoke coming from the unit, unplug the air conditioner immediately and call a contact center.

- Potential risk of fire or electric shock.

CAUTION SIGNS

Do not block or place items in front of the air conditioner. Do not step, hang onto, or place heavy items on the air conditioner.

- Potential risk of personal injury.

If failure or damage occurs on the conditions of improper use not followed by the installation manual, there will be an extra labor charge for installing and construction.

- Potential risk of malfunction, electric shock or fire if repairs or installations are attempted by a non-qualified service technician.

Do not spray flammable gases such as insecticide near the air conditioner.

- Potential risk of electric shock, fire or unit malfunction.

Do not open the front grille during operation.

- Potential risk of electric shock or unit malfunction.

Cool air should not flow directly towards people, pets, and plants.

- It is harmful to your health, pets, and plants.

Do not drink drain water coming out of the air conditioner.

- Potential risk of health hazard.

Do not allow children to climb on the air conditioner.

Do not use the air conditioner as a cooling precision instrument for food, pets, plants, cosmetics or machinery.

Do not pull or give excessive shock to the air conditioner.

- Potential risk of fire, or unit malfunction and there are risk of personal injury because unit may fall down.

Do not spray water directly on the air conditioner or use benzene, thinner or alcohol to clean the surface of the unit.

- Potential risk of electric shock or fire.
- Potential risk of damage to the air conditioner.

Do not place any objects, especially containers with liquid.

Do not touch the pipe connected to the air conditioner.

Install the indoor unit away from lighting apparatus using the ballast.

- If you use the wireless remote control, reception error may occur due to the ballast of the lighting apparatus.

Install the outdoor unit where operating noise and vibration will not disturb your neighbor and in a well-ventilated area with no obstacle.

- Potential risk of malfunction.
- Operating noise may disturb your neighbor.

Make sure that there are no obstacles or covers that block the air conditioner.

Allow sufficient space for air circulation.

- Insufficient ventilation may result in poor performance.

If the power cable is damaged, the manufacturer or a qualified service technician must replace it.

If a power outage occurs while the air conditioner is working, turn off the power source immediately.

Max current is measured according to IEC standard for safety and current is measured according to ISO standard for energy efficiency.

Check for damage on delivery. If damaged, do not install the air conditioner and call the place of purchase immediately.

Keep indoor temperatures stable and not extremely cold, especially where there are children, elderly or disabled people.

The packaging material and used batteries of the remote controller (optional) must be disposed of in accordance with the national standards.

The refrigerant used in the air conditioner must be treated as chemical waste. Dispose the refrigerant following national standards.

Have a qualified service technician install the air conditioner and perform a trial operation.

Firmly connect the drain hose to the air conditioner for proper water drainage.

Check for damages on the outdoor unit installation pad at least once a year.

- Potential risk of personal injury or property loss.

When using a wireless remote control, the distance should not be more than 7 meters from the air conditioner.

If the remote control is not used for a long period of time, remove the batteries to prevent leakage of electrolyte.

When cleaning the outdoor unit, touch the heat exchanger radiator fins with extreme care.

- Wearing thick gloves can protect your hands.

Make sure that the condensed water dripping from the drain hose runs out properly and safely.

The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety: Young children should be supervised to ensure that they do not play with the appliance.

⚠CAUTION SIGNS (CONT'D)

Inspect the condition, electric connections, pipes and external case of the air conditioner regularly by a qualified service technician.

Do not open doors and windows in the room being cooled during operation unless necessary.

Do not block the air conditioner vents. If objects block the air flow, it may cause unit malfunction or poor performance.

Make sure there are no obstacles under the indoor unit.
- Potential risk of fire or loss of property.

The air conditioner should be used only for the applications for which it has been designed: the indoor unit is not suitable to be installed in areas used for laundry.

Our units must be installed in compliance with the spaces indicated in the installation manual to ensure either accessibility from both sides or ability to perform routine maintenance and repairs. The units' components must be accessible and that can be disassembled in conditions of complete safety either for people or things.

For this reason, where it is not observed as indicated into the Installation Manual, the cost necessary to reach and repair the unit (in safety, as required by current regulations in force) with slings, trucks, scaffolding or any other means of elevation won't be considered in-warranty and charged to end user.

Ensure the off-on and protection switches are properly installed.

Do not use the air conditioner if damaged. If problems occur, immediately stop operation and disconnect the plug from the power supply.

If the air conditioner will not be used for an extended period of time (for example, over several months), unplug the power from the wall.

Call the place of purchase or a contact center if repairs are needed.
- Potential risk of fire or electric shock if disassembly or repairs are attempted by a non-qualified service technician.

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ENGLISH

This product has been determined to be in compliance with the Low Voltage Directive (2006/95/EC), and the Electromagnetic Compatibility Directive (2004/108/EEC) of the European Union.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

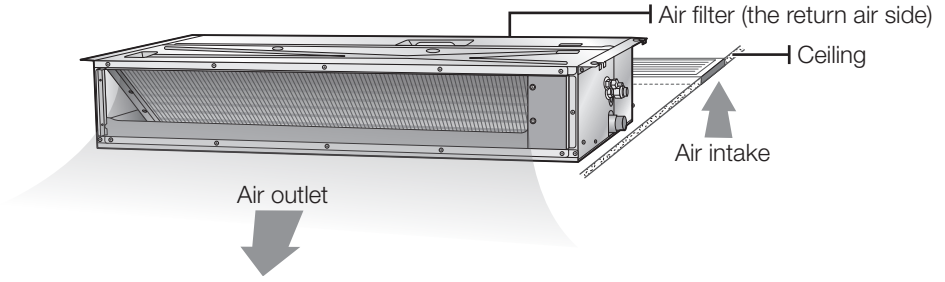
Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

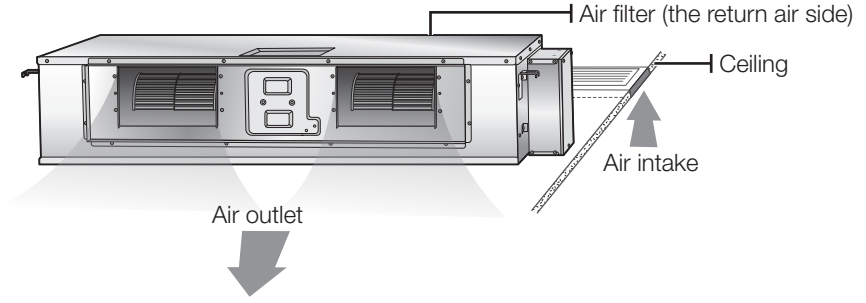
viewing your air conditioner

Congratulations on the purchase of the air conditioner. We hope you enjoy the features of your air conditioner and stay cool or warm with optimal efficiency.
Please read the user manual to get started and to make the best use of the air conditioner.

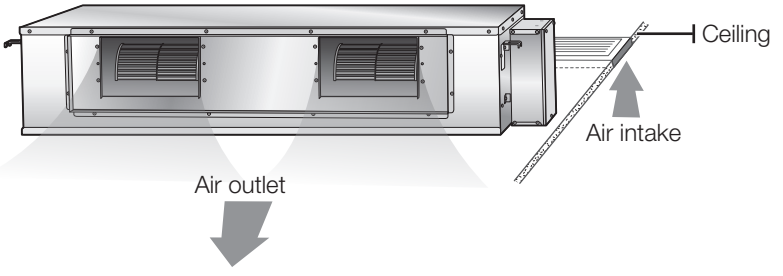
SLIM DUCT TYPE



MA DUCT TYPE



HSP DUCT TYPE



Your air conditioner may look slightly different from the illustration shown above depending on your model.

TIPS ON USING YOUR AIR CONDITIONER

Here are some tips that you would follow when using your air conditioner.

TOPIC	RECOMMENDATION
Cooling	• If current outside temperatures are much higher than the selected indoor temperature, it may take time to bring the inner temperature to the desired coolness. • Avoid drastically turning down the temperature. Energy is wasted and the room does not cool faster.
Heating	• Since the air conditioner heats the room by taking heat energy from outdoor air, the heating capacity may decrease when outdoor temperatures are extremely low. If you feel the air conditioner insufficiently heats, using an additional heating appliance in combination with the air conditioner is recommended.
Frost & De-ice	• When the air conditioner runs in Heat mode, due to temperature difference between the unit and the outside air, frost will form. If this happens: - The air conditioner stops heating. - The air conditioner will operate automatically in De-ice mode for 10 minutes. - The steam produced on the outdoor unit in De-ice mode is safe. No intervention is required; after about 10 minutes, the air conditioner operates again normally. The unit will not operate when it starts to de-ice.
Fan	• Fan may not operate for about 3~5 minutes at the beginning to prevent any cold blasts while the air conditioner is warming up.
High indoor/outdoor temperatures	• If both indoor and outdoor temperatures are high and the air conditioner is running in Heat mode, the outdoor unit's fan and compressor may stop at times. This is normal; wait until the air conditioner turns on again.
Power failure	• If a power failure occurs during the operation of the air conditioner, the operating immediately stops and unit will be off. When power returns, the air conditioner will run automatically.
Protection mechanism	• If the air conditioner has just been turned on after operation stops or being plugged in, cool/warm air does not come out for 3 minutes to protect the compressor of the outdoor unit.

cleaning and maintaining the air conditioner

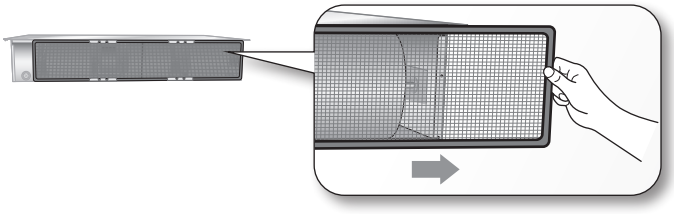
For the best performance from your air conditioner, clean it periodically. When cleaning, make sure to unplug from the unit for user's safety.

CLEANING THE FILTER

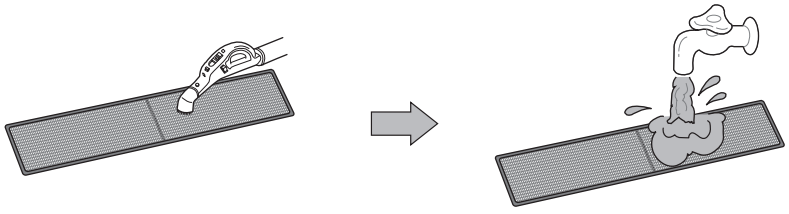
When cleaning the filter, make sure to unplug the power from the unit. Washable foam based Air filter captures large particles from the air. The filter is cleaned with a vacuum or by hand washing.

Slim duct type

1. Slide out the Air filter on the rear side panel to the right side.

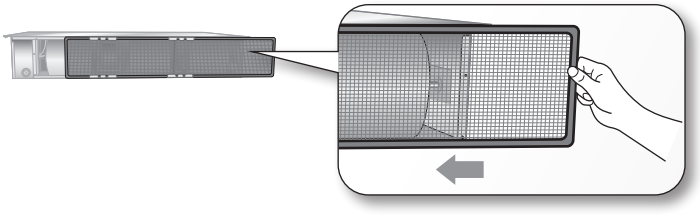


2. Clean the Air filter with a vacuum cleaner or soft brush. If dust is too heavy, then rinse it with running water and dry it in a ventilated area.



- For best conditions, repeat every two weeks.
- If the Air filter dries in a confined (or humid) area, odors may generate. If it occurs, re-clean and dry it in a ventilated area.

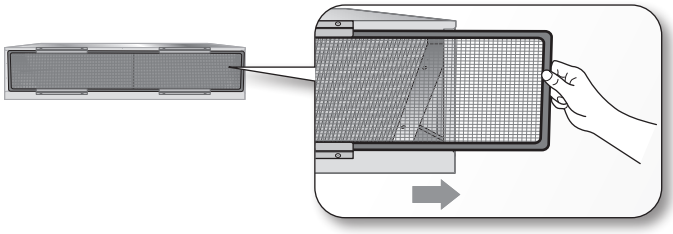
3. Insert the Air filter back in its original position.



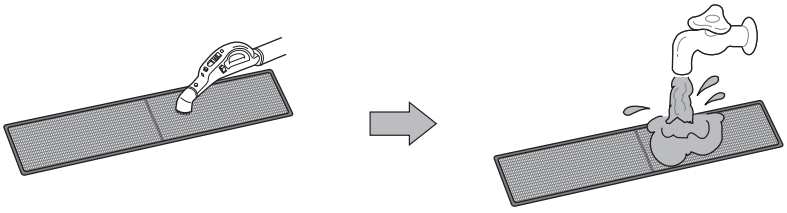
- The illustration shown above may differ from your depending on your model.
- After cleaning the filter, press the **Filter Reset** button on the remote control for 2 seconds to reset the filler schedule. Filter sign indicator will be on for cleaning time.

MA/HSP duct type

1. Slide out the Air filter on the rear side panel to the right side.

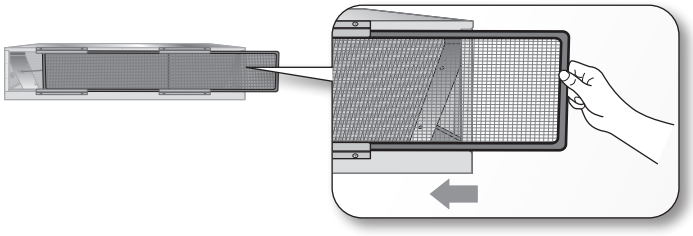


2. Clean the Air filter with a vacuum cleaner or soft brush. If dust is too heavy, then rinse it with running water and dry it in a ventilated area.



- For best conditions, repeat every two weeks.
- If the Air filter dries in a confined (or humid) area, odors may generate. If it occurs, re-clean and dry it in a ventilated area.

3. Insert the Air filter back in its original position.



- The illustration shown above may differ from your depending on your model.
- After cleaning the filter, press the **Filter Reset** button on the remote control for 2 seconds to reset the filler schedule. Filter sign indicator will be on for cleaning time.

cleaning and maintaining the air conditioner

MAINTAINING YOUR AIR CONDITIONER

If the air conditioner will not be used for an extended period of time, dry the air conditioner to maintain it in best condition.

1. Dry the air conditioner thoroughly by operating in Fan mode for 3 to 4 hours and disconnect the power plug. There may be internal damage if moisture is left in components.
2. Before using the air conditioner again, dry the inner components of the air conditioner again by running in Fan mode for 3 to 4 hours. This helps remove odors which may have generated from dampness.

Periodical checks

Refer to the following chart to maintain the air conditioner properly.

Type	Description	Monthly	Every 4 months	Once a year
Indoor unit	Clean the air filter (1)	●		
	Clean the condensate drain pan (2)			●
	Thoroughly clean the heat exchanger (2)			●
	Clean the condensate drain pipe (2)		●	
	Replace the remote control batteries (1)			●
Outdoor unit	Clean the heat exchanger on the outside of the unit (2)		●	
	Clean the heat exchanger on the inside of the unit (2)			●
	Clean the electric components with jets of air (2)			●
	Verify that all the electric components are firmly tightened (2)			●
	Clean the fan (2)			●
	Verify that all the fan assembly is firmly tightened (2)			●
	Clean the condensate drain pan (2)			●

The checks and maintenance operations described are essential to guarantee the efficiency of the air conditioner. The frequency of these operations varies according to the characteristics of the area, the amount of dust, etc.

(1) The described operations should be performed more frequently if the area of installation is very dusty.

(2) These operations must always be performed by qualified personnel. For more detailed information, see the Installation Manual.

Internal protections via the unit control system

This internal protection operates if an internal fault occurs in the air conditioner.

Type	Description
Against cold air	The internal fan will be off to against cold air when the heat pump is heating.
De-ice cycle	The internal fan will be off to against cold air when the heat pump is heating.
Anti-protection of internal battery	The compressor will be off to protect internal battery when the air conditioner operates in Cool mode.
Protect compressor	The air conditioner does not start operating immediately to protect the compressor of the outdoor unit after it has been started.

If the heat pump is operating in Heat mode, De-ice cycle is actuated to remove frost from an outdoor unit that may have deposited at low temperatures.

The internal fan is switched off automatically and restarted only after the de-ice cycle is completed.

TROUBLESHOOTING

Refer to the following chart if the air conditioner operates abnormally. This may save time and unnecessary expenses.

PROBLEM	SOLUTION
The air conditioner does not operate immediately after it has been restarted.	• Because of the protective mechanism, the appliance does not start operating immediately to keep the unit from overloading. The air conditioner will start in 3 minutes.
The air conditioner does not work at all.	• Check that the power plug is properly connected. Insert the power plug into the wall socket correctly. • Check if the circuit breaker is switched off. • Check if there is a power failure. • Check your fuse. Make sure it is not blown out.
The temperature does not change.	• Check if you selected Fan mode. Press the **Mode** button on the remote control to select another mode.
The cool (warm) air does not come out of the air conditioner.	• Check if the set temperature is higher (lower) than the current temperature. Press the **Temperature** button on the remote control to change the set temperature. Press the **Temperature** button to decrease or increase the temperature. • Check if the air filter is blocked by dirt. Clean the air filter every two weeks. • Check if the air conditioner has just been turned on. If so, wait 3 minutes. Cool air does not come out to protect the compressor of the outdoor unit. • Check if the air conditioner is installed in a place with a direct exposure to sunlight. Hang curtains on windows to boost cooling efficiency. • Check if the cover or any obstacle is not near the outdoor unit. • Check if the refrigerant pipe is too long. • Check if the air conditioner is only available in Cool mode. • Check if the remote control is only available for cooling model.
The fan speed does not change.	• Check if you selected Auto or Dry mode. The air conditioner automatically adjusts the fan speed to Auto in Auto/Dry mode.
Timer function does not set.	• Check if you press the **Power** button on the remote control after you have set the time.
Odors permeate in the room during operation.	• Check if the appliance is running in a smoky area or if there is a smell entering from outside. Operate the air conditioner in Fan mode or open the windows to air out the room.
The air conditioner makes a bubbling sound.	• A bubbling sound may be heard when the refrigerant is circulating through the compressor. Let the air conditioner operate in a selected mode. • When you press the **Power** button on the remote control, noise may be heard from the drain pump inside the air conditioner.
Water is dripping from the air flow blades.	• Check if the air conditioner has been cooling for an extended period of time with the air flow blades pointed downwards. Condensation may generate due to the difference in temperature.
Remote control is not working.	• Check if your batteries are depleted. • Make sure batteries are correctly installed. • Make sure nothing is blocking your remote control sensor. • Check that there are strong lighting apparatus near the air conditioner. Strong light which comes from fluorescent bulbs or neon signs may interrupt the electric waves.
The air conditioner does not turn on or off with the wired remote control.	• Check if you set the wired remote control for group control.
The wired remote control does not operate.	• Check if TEST indicator is displayed on the wired remote control. If so, turn off the unit and switch off the circuit breaker. Call your nearest contact center.
The indicators of the digital display flashes.	• Press the **Power** button on the remote control to turn the unit off and switch the circuit breaker off. Then, switch it on again.

OPERATION RANGES

The table below indicates the temperature and humidity ranges the air conditioner can be operated within. Refer to the table for efficient use.

MODE	OPERATIONAL TEMPERATURE		INDOOR HUMIDITY	IF OUT OF CONDITIONS
	INDOOR	OUTDOOR		
COOLING	18℃ to 32℃	-5℃ to 43℃	80% or less	Condensation may occur on the indoor unit with risk to have either water blow off or drops on the floor.
HEATING	27℃ or less	-20℃ to 24℃	-	Internal protection triggers and the air conditioner will stop.
DRYING	18℃ to 32℃	-5℃ to 43℃	-	Condensation may occur on the indoor unit with risk to have either water blow off or drops on the floor.

The standardized temperature for heating is 7℃. If the outdoor temperature drops to 0℃ or below, the heating capacity can be reduced depending on the temperature condition.
If the cooling operation is used at over 32℃(indoor temperature), it does not cool at its full capacity.

Model specification (Dimension and weight)

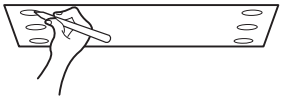
Dimension and weight							
Type	Model	Net dimension (WxDxH) (mm)	Net weight (kg)	Type	Model	Net dimension (WxDxH) (mm)	Net weight (kg)
Indoor unit	AVXDUH112EE	1150*480*320	36.5	Outdoor unit (DVM+4)	RD080HHXGB	880*765*1695	237
	AVXDUH128EE	1200*360*650	48.5		RD100HHXGB	880*765*1695	237
	AVXDUH140EE	1200*360*650	48.5		RD120HHXGB	880*765*1695	240
	AVXDUH056EE	900*260*480	29		RD140HHXGB	1295*765*1695	280
	AVXDUH071EE	900*260*480	29		RD160HHXGB	1295*765*1695	329
	AVXDUH090EE	1150*260*480	32		RD180HHXGB	1295*765*1695	340
	ND022LHXEA	900*199*600	23.5		RD200HHXGB	1295*765*1695	349
	ND028LHXEA	900*199*600	23.5		RD080HRXGB	880*765*1695	243
	ND036LHXEA	900*199*600	23.5		RD100HRXGB	880*765*1695	243
	ND045LHXEA	1100*199*600	30		RD120HRXGB	880*765*1695	243
	ND056LHXEA	1100*199*600	30		RD140HRXGB	1295*765*1695	293
	ND071LHXEA	1100*199*600	30		RD160HRXGB	1295*765*1695	338
	ND090LHXEA	1300*295*690	40		RD180HRXGB	1295*765*1695	349
	ND112LHXEA	1300*295*690	40		RD200HRXGB	1295*765*1695	355
	ND128LHXEA	1300*295*690	41.5	Outdoor unit (DVM Mini)	RD040MHXEA	940*330*1210	100
	ND140LHXEA	1300*295*690	41.5		RD050MHXEA	940*330*1210	100
	ND140HHXEB	1200*360*650	62		RD060MHXEA	940*330*1210	103
	ND128HHXEB	1200*360*650	62		RD040MHXGA	940*330*1210	100
	ND112HHXEB	1200*360*650	62		RD050MHXGA	940*330*1210	100
	ND022SHXEA	900*199*600	23.5		RD060MHXGA	940*330*1210	103
	ND028SHXEA	900*199*600	23.5	Outdoor unit (GEN2 TDM)	RD060PHXEA	798*880*310	71
	ND036SHXEA	900*199*600	23.5		RD070PHXEA	798*880*310	71
	ND045SHXEA	900*260*480	29		RD080PHXEA	798*880*310	71
	NH022LHXEA	900*199*600	23.5		RD110PHXEA	932*1128*375	108
	NH028LHXEA	900*199*600	23.5		RD140PHXEA	932*1128*375	108
	NH036LHXEA	900*199*600	23.5		RD160PHXEA	932*1128*375	108
	NH045LHXEA	1100*199*600	30		RD160PHXEB	932*1128*375	108
	NH056LHXEA	1100*199*600	30				

Indoor Unit Installation

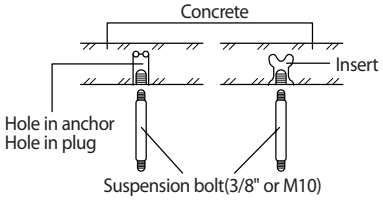
It is recommended to install the Y-joint before installing the indoor unit.

1. Place the pattern sheet on the ceiling at the spot where you want to install the indoor unit.

Note Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings.



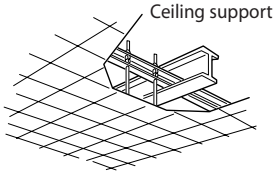
2. Insert bolt anchors, use existing ceiling supports or construct a suitable support as shown in figure.



3. Install the suspension bolts depending on the ceiling type.

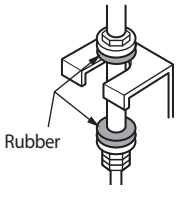
CAUTION

- Ensure that the ceiling is strong enough to support the weight of the indoor unit. Before hanging the unit, test the strength of each attached suspension bolt.
- If the length of suspension bolt is more than 1.5m, it is required to prevent vibration.
- If this is not possible, create an opening on the false ceiling in order to be able to use it to perform the required operations on the indoor unit.



4. Screw eight nuts to the suspension bolts making space for hanging the indoor unit.

CAUTION You must install the suspension bolts more than four when installing the indoor unit.



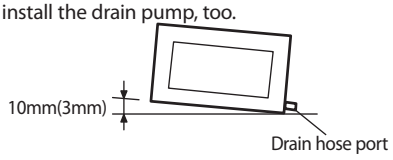
5. Hang the indoor unit to the suspension bolts between two nuts.

Note Piping must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the piping into position for connection to the unit before placing the unit inside the ceiling.

6. Screw the nuts to suspend the unit.

7. Adjust level of the unit by using measurement plate for all 4 sides.

Note For proper drainage of condensate, give a 10mm(3mm) slant to the left or right side of the unit which will be connected with the drain hose, as shown in the figure. Make a tilt when you wish to install the drain pump, too.



✳ ND022/028/036SH✳✳: 3mm
AVXDS✳✳/NH✳✳LH✳✳/ND✳✳LH✳✳: 3mm
AVXDU✳✳/ND✳✳HH✳✳/ND045SH✳✳: 10mm

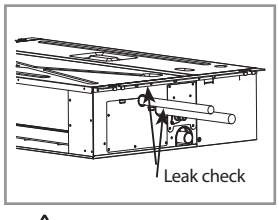
Performing Leak Test & Insulation

Leak test

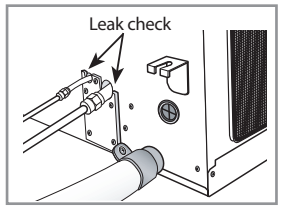
LEAK TEST WITH NITROGEN(before opening valves)
In order to detect basic refrigerant leaks, before recreating the vacuum and recirculating the R410A, it's responsible of installer to pressurize the whole system with nitrogen(using a pressure regulator) at a pressure above 4.1MPa(gauge).

LEAK TEST WITH R410A(after opening valves)
Before opening valves, discharge all the nitrogen into the system and create vacuum. After opening valves check leaks using a leak detector for refrigerant R410A.

AVXDS✳✳/NH✳✳✳LH✳✳✳ /ND✳✳✳LH✳✳✳ /ND022/028/036SH✳✳✳



AVXDU✳✳/ND✳✳✳HH✳✳✳ /ND045SH✳✳✳



CAUTION

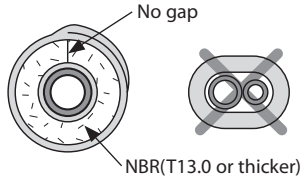
Discharge all the nitrogen to create a vacuum and charge the system.

Insulation

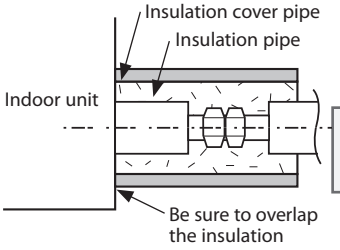
Once you have checked that there are no leaks in the system, you can insulate the piping and hose.

1. To avoid condensation problems, place **T13.0 or thicker Acrylonitrile Butadien Rubber** separately around each refrigerant pipe.

Note Always make the seam of pipes face upwards.



2. Wind insulating tape around the pipes and drain hose avoiding to compress the insulation too much.



CAUTION

Must fit tightly against body without any gap.

3. Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.

4. The pipes and electrical cables connecting the indoor unit with the outdoor unit must be fixed to the wall with suitable ducts.

CAUTION

All refrigerant connection must be accessible, in order to permit either unit maintenance or removing it completely.

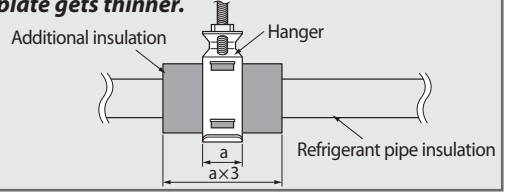
5. Select the insulation of the refrigerant pipe.

- Insulate the gas side and liquid side pipe referring to the thickness according to the pipe size.
- Indoor temperature of 30°C and humidity of 85% is the standard condition.
  If install in a high humidity condition,use one grade thicker insulator by referring to the table below.
  If installing in an unfavorable conditions,use thicker one.
- Insulator's heat-resistance temperature should be more than 120°C.

Pipe	Pipe size	Insulation Type(Heating/Cooling)		Remarks
		Standard [30°C,85%]	High humidity [30°C,over85%]	
		EPDM,NBR		
Liqued pipe	Φ6.35~Φ9.52	9t	9t	Internal temperature is higher than 120°C
	Φ12.7~Φ50.80	13t	13t	
Gas Pipe	Φ6.35	13t	19t	
	Φ9.52	19t	25t	
	Φ12.70			
	Φ15.88			
	Φ19.05			
	Φ22.23			
	Φ25.40			
	Φ28.58		32t	
	Φ31.75			
	Φ38.10			
	Φ44.45			
	Φ50.80	25t	38t	

CAUTION

- ***Install the insulation not to get wider and use the adhesives on the connection part of it to prevent moisture from entering.***
- ***Wind the refrigerant pipe with insulation tape if it is exposed to outside sunlight.***
- ***Install the refrigerant pipe respecting that the insulation does not get thinner on the bent part or hanger of pipe.***
- ***Add the additional insulation if the insulation plate gets thinner.***



Drain pipe and Drain Hose Installation

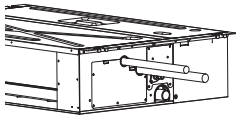
AVXDS✳✳/NH✳✳✳LH✳✳✳/ND✳✳✳LH✳✳✳ /ND022/028/036SH✳✳✳

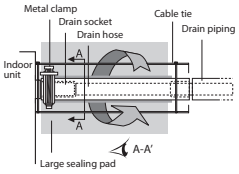
1. Install the drain hose as short as possible.

Note
- In order to discharge condensation water, the drain hose should keep tilted.
- Fix the drain hose with Cable-Tie, so that it will not separate from the machine.
- The drain pump connection port is used when using a drain pump.

2. When there is no drain pump, Insulate and fix the drain hose according to the figure.

Note
- Lock steel ring of the drain hose according to the figure.
- Wind and wrap steel ring and drain hose fully with thermal insulation sponge; fix both ends of external layer with ribbon for thermal insulation.





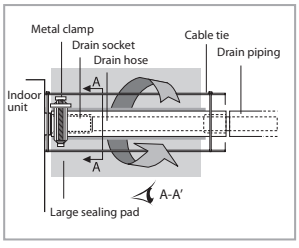
AVXDU✳✳/ND✳✳✳HH✳✳✳/ND045SH✳✳✳

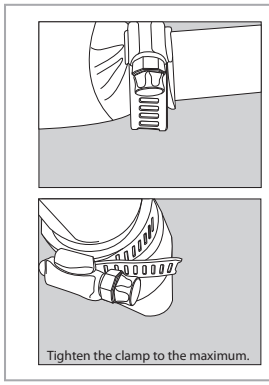
1 Install the drain hose as short as possible.

note
- In order to discharge condensation water, the drain hose should keep tilted.
- Secure the drain hose with the cable-tie not to be separated from the unit.
- The drain pump connection port is used when using a drain pump.

2 When there is no draining pump, insulate the drain hose and then fix it as a picture.

note
- Insert the drain hose to bottom of the outfall of water basin.
- Lock steel ring of the drain hose according to the figure.
- Wind and wrap steel ring and drain hose fully with thermal insulation sponge; fix both ends of external layer with ribbon for thermal insulation.
- After being installed, drain hose must be insulated fully by heat insulating material.(To be provided at site.)



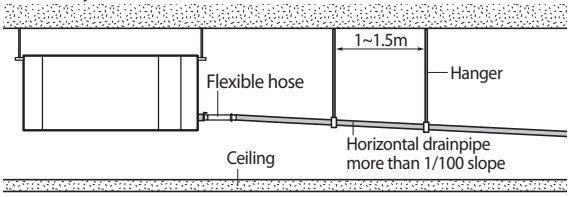


ENGLISH

Drainpipe Connection

Without the drain pump

1. Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
2. Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.
3. Do not install the drainpipe to upward position.
   It may cause water flow back to the unit.

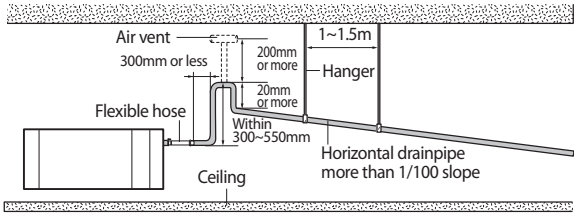


With the drain pump

1. The drain pipe should be installed within 300mm to 550mm from the flexible hose and then lift down 20mm or more.
2. Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
3. Install the air vent in the horizontal drainpipe to prevent water flow back to the indoor unit.

   Note You may not need to install it if there were proper slope in the horizontal drainpipe.

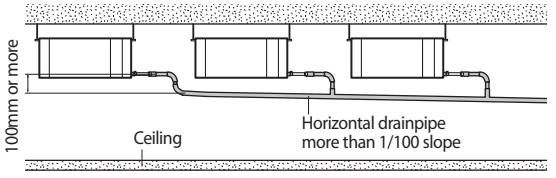
4. The flexible hose should not be installed upward position, it may cause water flow back to the indoor unit.



Centralized Drainage

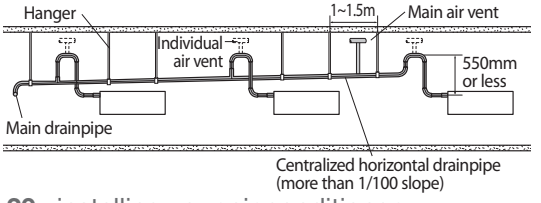
Without the drain pump

1. Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
2. Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.



With the drain pump

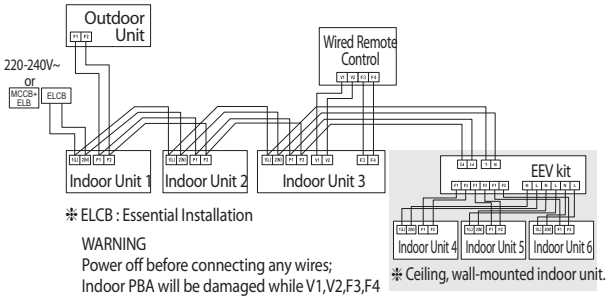
1. Install main air vent at the front of the farthest indoor unit from the main drain when installed indoor units are more than 3.
2. You may need to install individual air vent to prevent water flow back at the top of each indoor unit drainpipe.



Wiring Work

Power and communication cable connection

1. Before wiring work, you must turn off all power source.
2. Indoor unit power should be supplied through the breaker(ELCB or MCCB+ELB) separated by the outdoor power.
   ELCB: Earth Leakage Circuit Breaker
   MCCB:Molded Case Circuit Breaker
   ELB:Earth Leakage Breaker
3. The power cable should be used only copper wires.
4. Connect the power cable{1(L), 2(N)} among the units within maximum length and communication cable(F1, F2) each.
5. Connect V1, V2(for DC12V) and F3, F4(for communication) when installing the wired remote Control.

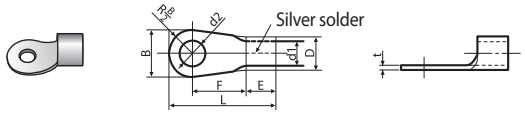


❊ ELCB : Essential Installation

WARNING
Power off before connecting any wires;
Indoor PBA will be damaged while V1,V2,F3,F4 short each other.

❊ Ceiling, wall-mounted indoor unit.

Selecting compressed ring terminal



Nominal dimensions for cable (mm^2)	Nominal dimensions for screw (mm)	B		D		d1		E	F	L	d2		t
		Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Min.	Min.	Max.	Standard dimension (mm)	Allowance (mm)	Min.
1.5	4	6.6	±0.2	3.4	+0.3 -0.2	1.7	±0.2	4.1	6	16	4.3	+0.2 0	0.7
	4	8											
2.5	4	6.6	±0.2	4.2	+0.3 -0.2	2.3	±0.2	6	6	17.5	4.3	+0.2 0	0.8
	4	8.5											
4	4	9.5	±0.2	5.6	+0.3 -0.2	3.4	±0.2	6	5	20	4.3	+0.2 0	0.9

Specification of electronic wire

Power supply	MCCB	ELB or ELCB	Power cable	Earth cable	Communication cable
Max : 242V Min : 198V	χ A	χ A, 30mmA 0.1 sec	2.5mm^2	2.5mm^2	0.75~1.5mm^2

◆ Decide the capacity of ELCB(or MCCB+ELB) by below formula.

The capacity of ELCB(or MCCB+ELB) χ [A] = 1.25 X 1.1 X $\sum$Ai

✳ χ : The capacity of ELCB(or MCCB+ELB).
✳ $\sum$Ai : Sum of Rating currents of each indoor unit.
✳ Refer to each installation manual about the rating current of indoor unit.

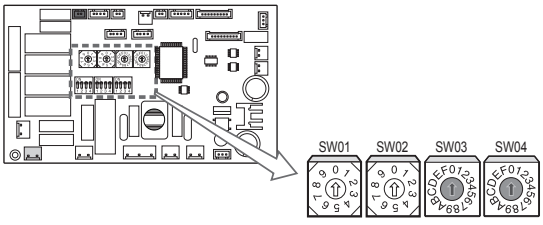
◆ Decide the power cable specification and maximum length within 10% power drop among indoor units.

$$\sum_{k=1}^{n}\left(\frac{Coef\times 35.6\times L_k\times i_k}{1000\times A_k}\right) < \text{10\% of input voltage[V]}$$

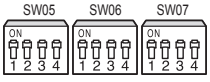
✳ Coef: 1.55
✳ L_k: Distance among each indoor unit[m],
A_k: Power cable specification[mm^2], i_k: Running current of each unit[A]

Indoor Unit Setting

1. Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.
2. The address of the indoor unit is assigned by adjusting MAIN(SW01, SW02) and RMC(SW03, SW04) rotary switches.



✳ The designs and shape are subject to change according to the model.

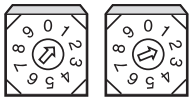


Setting MAIN Address

- The MAIN address is for communication between the indoor unit and the outdoor unit. Therefore, you must set it to operate the air conditioner properly.
- You can set the MAIN address from '00' to '99' by mixing SW01 and SW02.
  The MAIN address from '00' to '99' should differ from each other.
- Check the indoor unit address on the plan that you are to install and set the address according to the plan.

Note You may not need to set MAIN address if you selected Auto Address Setting from the outdoor unit: see details on the outdoor unit installation manual.

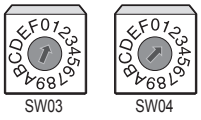
For Example **When MAIN address is set as "12".**



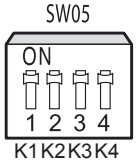
Setting RMC Address

- The SW03 and SW04 RMC switch is the address setting switch for controlling the indoor unit with the centralized controller.
- You must set the SW03, SW04 and K2 switch when using the centralized controller.
- You don't have to set the SW03 and SW04 RMC switch when not using the centralized controller.

For Example **When RMC address is set as "12".**

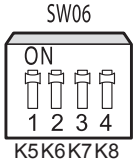


Additional Functions

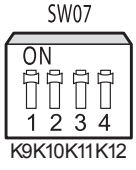


No.		Function	ON	OFF
SW05	K1	External room sensor	Not use	Use
	K2	Centralized controller	Not use	Use
	K3	-	-	-
	K4	Drain pump	Not use	Use

✳ K1 OFF
Heating mode : Setting temperature compensation value = 0°C
Thermo OFF → Fan OFF



No.		Function	ON	OFF
SW06	K5	Heating Current Temperature Compensation	+2°C	+5°C
	K6	Filter Time	1000 hours	2000 hours
	K7	Hot ttWater Heater	Not use	Use
	K8	-	-	-



No.		Function	ON	OFF
SW07	K9	Indoor Expansion Valve For Heating Stop	Fix 80 step	0 or 80 step
	K10	Wired Remocon Group Master	Not use	Use
	K11	External control	Not Use	Use
	K12	External Control Output	Thermal ON	Operation ON

QUESTIONS OR COMMENTS?

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